

## **AGS MAINTENANCE/MODIFICATIONS/REPAIRS**

### **May 1998 SHUTDOWN SCHEDULE**

R. Zaharatos - May 5, 1998

#### **SCHEDULE SUMMARY**

- HIP run ends - Sunday, May 10<sup>th</sup> at 1600 hours (projected)
- Shutdown Jobs Period: Begins - Monday, May 11, 1998 at 0800 hours, Ends - For Booster, Friday, May 22, 1998 at 0800 hours, For AGS, Thursday, May 28, 1998 at 0800 hours.
- Equipment Checkout for HEP turn-on: Some barriered testing on request during the shutdown or possibly off hours (for any equipment that was modified).
- AGS Ring heat run - Just prior to AGS turn-on (May 28, 1998)
- AGS Ring Restricted Access - May 11, 1998 at 0800 hours through May 27, 1998.
- Booster Ring Restricted Access - May 11, 1998 at 0800 hours through May 21, 1998.
- SEB Restricted Access - May 12, 1998 at 0800 hours through May 27, 1998.

#### **SHUTDOWN DETAILED SCHEDULE**

Shutdown Jobs Period: Booster - Monday, May 11, 1998 at 0800 hours through Friday, May 22, 1998 at 0800 hours.

AGS - Monday, May 11, 1998 at 0800 hours through Thursday, May 28, 1998 at 0800 hours.

##### **MCR and OPS Group Manning**

May 11<sup>th</sup> MCR 24 hour manning ends. Presently scheduled for 1630 hours. Switch Pump Room Alarms to Site Maintenance (inform Site Supervisor) at 1630 hours.

##### **May 12<sup>th</sup>**

0800-1630 Periods of MCR manning for HP surveys as required.

##### **Shutdown Schedule**

##### **May 10<sup>th</sup>**

1600 HIP ends. Set all equipment to off.

1630 Begin Booster and AGS Shutdown LOTO (Booster first followed by AGS).

2000 HP detailed survey of Booster including detailed surveys of devices to be worked on (list given to HP and copy to MCR).

2100 HP detailed survey of AGS including detailed surveys of devices to be worked on (list given to HP and copy to MCR).

Booster to Restricted Access

2400 AGS to Restricted Access. Continue Shutdown LOTO

##### **May 11<sup>th</sup>**

0600-0800 Secure AGS water systems for tower cleaning and start of RF electrical power additions.

0800-1200 Complete AGS Shutdown LOTO.

0800 Begin SEB LOTO and complete HP surveys for Restricted Access.

##### **May 11<sup>th</sup> -12<sup>th</sup>**

0800 until fin G-2 Begin shutdown of cryo systems to allow for Tower 5 work.

## Turn-on Schedule

### May 22<sup>nd</sup>

0800-1030     Secure Booster and remove LOTO  
1030            Booster equipment turn on/checkout

### May 28<sup>th</sup>

0800            Secure AGS and remove LOTO for heat run.  
1030            Equipment turn-on for heat run.  
1100            AGS shutdown Supplemental LOTO removal.  
1330            AGS heat run.  
1500            AGS start-up.

June 1<sup>st</sup>        HEP on

## **PRIMARY JOBS**

### AGS RING SYSTEMS

1. D10 and L10 Barrier Buckets installation
2. A20 Flying Wire installation
3. F5 Septum replacement with spare
4. J10 Dump Bump installation
5. Installation of gas filled C010 Sec
6. Relocate MCR UPS
7. Install Multipole Room air-conditioner
8. Paint upper section of Linac Cooling Tower
9. Paint upper section of Cooling Tower 5
10. Cleaning of all cooling towers
11. Cooling Tower 2 Basin relining
12. Substation work for RF Plate P.S.'s
13. South Shield entry tunnel shielding upgrade
14. Check the balance of MG Set rotor
15. H10 Hse. - completion of new water cooling sys.
16. Repair of A5 Kicker interlocks
17. Back-flush all PA to cavity drive loops
18. Complete installation of BPM's (ring end)
19. Remove old Low Field Dipoles
20. Substation 3J maintenance
21. Replace F6 Main Magnet

### BOOSTER

1. RF Band III (A6,E6) modification
2. RF Band III (A6,E6) water fittings replacement
3. Move C3 Inflector to out of beam position.
4. Bldg. 914 air-conditioning upgrade
5. Replace all hoses in MMAG P.S.'s
6. Install all cabling for new BPM's
7. Repair C5 foils stripper and bakeout sector
8. Repair D4 feedthru and bakeout sector

### LINAC

\* Repair HEBT SEM unit.

The Linac will be in start-up conditioning mode during this maintenance period with one down period of two days for the painting of the top section of the Linac water tower.

**SEB**

1. Magnets powered checkout for all required beam lines
2. "D" Line vacuum checkout and repairs.

**SUPPORT GROUP LISTS FOR MAINTENANCE/MODIFICATIONS/REPAIRS**  
(ADDITIONS OR CHANGES TO R. ZAHARATOS A.S.A.P)**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM****JOBS SCHEDULING REQUEST****GROUP: Access Controls: D. Meany (Ext. 5329, [0361], A. McGearry (Ext. 2053 [0554]**

For Maintenance Period May, 1998 Summer Shutdown

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
1	SEB	2 weeks	Check SEB secondary beam lines		
2	U Line	in	Wire U Line D/S gates and crash		
3	U Line	progress 2 weeks	Test "PASS" System		
4	LINAC	2 day	Linac Annual Security Checks		
5	C1	1/2 day	Install C1 New Radiation Monitor		
6	C6C8	1/2 day	Install C6C8 New Radiation Monitor		
7	AGS/PASS	2 day	Revise PASS/AGS Intlks and status		
8	Gate 9	2 hrs.	Check B Target D/S Gate Jamb Box		
9	AGS	2 day	Add SEB intlks to redn't intlks on Booster		
10	AGS	2 day	Modify South Shield Door Cabling		

# AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

## JOBS SCHEDULING REQUEST

**GROUP: Beam Components: D. Lehn (Ext. 4542, [4276], T. Russo (Ext. 7330 [4201]**

For Maintenance Period May, 1998 Summer Shutdown

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
1	AGS Ring		Replace F-5 with spare unit and new chamber. *		
2	AGS Ring		Remove F-6 Main Magnet and replace with spare and new coils. * (if the new F-5 Chamber is not ready to be installed, we will install the other spare with an old chamber and not include the main magnet replacement at this time).		
3	AGS Ring		Install A-20 Flying wire monitor and rework related components.		
4	AGS Ring		Change C-10 SEC w/vac. type		
5	AGS Ring		Backflush F-10 as required		
6	AGS Ring		Test equipment prior to start-up. (condition splitters, H-20, test interlocks, etc.)		
7	Booster Ring		Repair C-5 Foil Stripper (move foil positions to coincide w/MCR).		
8	Booster Ring		Move C-3 Inflector out of the beamline.		
9	Linac		Complete PLC conversion on 1 mod.		
10	Linac		Complete all parts fabrication and install Spallation Neutron Source foil test set-up.		
11	SEB Lines		Have all separators up and conditioned.		
12	SEB Lines		Service all Balzer Pump Stations		
13	SEB Lines		Modify CF-157 Flag and reinstall.		
14	RHIC		Manpower will be required to continue with Beam Dump and Injection Kickers.		

# **AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

## **JOBS SCHEDULING REQUEST**

**GROUP: Controls: K. Kohler (Ext. 3917), W. Buxton (Ext. 4053)**

For Maintenance Period May, 1998 Shutdown

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
1	Bldg. 929	24 mh	AGS BPM system controls final sys check out as needed.		
2	Mid "C" Station	16 mh	Commission flag light control		
3	Bldg. 911B	16 mh	Install vme scaler etc. for scaler AGS ops test		
4	A10	40 mh	Install Flying Wire controls		
5	Linac Control Room	80 mh	Linac time line commissioning		
6	Bldg. 921	80 mh	Install J18 controls		
7	Bldg. 911B	40 mh	Install reset to Linac		
8	Bldg. 911B	8 mh	Install firmware in Super Cycle Generator		
9	Booster	80 mh	Booster BPM system repair		
10	"C" Inst Trailer SWIC	4 mh	Commission		
11	Hitl Buildings	80 mh	Modify Hitl Vacuum controllers		
12	U Line Trailer	40 mh	Install U Line controls		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**  
**JOBS SCHEDULING REQUEST**

**GROUP: Instrumentation: T. Curcio (Ext. 4659 [4270], J. Geller (Ext. 4859 [4258]**

For Maintenance Period May, 1998 Shutdown

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
1	AGS Ring	80	A20 Flying Wire - Install Scintillation Paddle, BLM and all associated wiring to motors, encoders and limit switches. Tie in isolation valves into AGS Vacuum System. Test System.	Health Physics Beam Comp. Vacuum Group	
2	AGS Ring	4	C10SEC - Setup and test after installation	Health Physics Beam Comp. Vacuum Group	
3	D-Line	8	Replace D Target SWIC and all associated cables. Test SWIC and System.	Health Physics	Will need RWP
4	A-Line	8	Replace A Target SWIC and all associated cables. Test SWIC and System.	Health Physics	Will need RWP
5	A-Line	4	Remove A1W347 SWIC and move cables to Tube SWIC	Health Physics	
6	NSLS	16	Calibration of Chipmunks are required		
7	AGS Ring	40	CF011 - Installation of new Rad Hard Camera - pull in new cabling and install new hardware.	Health Physics	
8	AGS Complex	40	Calibration and Setup of all Current Transformers for Protons.		
9	External Beamlines	240	Setup and checkout of all necessary Beam Instrumentation on the Experimental Floor. Checkout all signals to MCR and all Experimental Trailers.	OPS MCR	
10	C-Line	20	Setup and Commission of New C3C1 Collimator and all associated controls	Controls	
11	C-Line	40	Repair of C1W530 SWIC and repair of the following loss monitors C1L53 - C1L57	Health Physics	Will need RWP
12	AGS	60	Vacuum System-Repair of all necessary IPPS (27)		
13	RHIC	40	BLM Analog Modules - Test incoming boards from vendor.		
14	C-Line	80	Installation of C-Line Servo system including cabling, gas line, installation of servo device and datacon modification.	Health Physics	

15	C - Line	40	Installation and Commission of SWIC actuator computer controls including actuator module modifications	Controls
16	SWYD	120	Installation and setup of new rad hard cameras including cables, rack setup and controls	Health Physics
17	C-Line	80	Installation and setup of new NMC's for C1 and C6/C8 Beamlines	
18	AGS Complex	60	Setup and checkout of all video systems needed for HEP run	Health Physics

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Mechanical Services: J. deBoer (Ext. 4668 [4250], E. Dale (Ext. 7943 [0124]  
B. Abel (Ext. 5711 [7119]**

For Maintenance Period May, 1998 Summer Shutdown

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
<b><u>PRIMARY PROJECTS</u></b>					
1	911A	200 mhrs	Possible modification to Main Magnet Pump rotating assemblies (3-pumps).		
2	913 AGS Ring	32 mhrs	L-10 Barrier Bucket cooling water connections, installation of temp and flow switches. Recalibration of all PA flow switches. Commissioning testing.	RF Group	All P.A. Stations
3	913 AGS Ring	12 mhrs	L-10 Cavity Cooling Water connection, installation of temp and flow switches. Commissioning testing.	RF Group	L-10
4	913 AGS Ring	24 mhrs	J-10 Beam Dump cooling water connections. Installation of temp and flow switches. Commissioning testings.	Beam Components	J-10
5	J-18 House	16 mhrs	J-10 Dump Bump cooling water connections. Temp and flow switch installation.		
6	913 AGS Ring	8 mhrs	F-6 Main Magnet rebuild, disconnection and reconnection of hoses. Possible replacement of fittings and hoses.		F-6 MM
7	913 AGS Ring	8 mhrs	H-20 Septum Installation, disconnection and reconnection of hoses. Possible replacement of fittings and hoses.		
8	930 Linac	24 mhrs	Paint top of tower.	P.E.	
9	919B	24 mhrs	Paint top of tower.	P.E.	
10	H-10	40 mhrs	Installation, testing, calibration and commissioning of new cooling system.	P.E. Plumbers and Electricians	
11	914 Booster	24 mhrs	Air conditioning modification. (may need to drain fire sprinkler system).	P.E. Plumbers	Bstr Ring
12	930A	40 mhrs	Replace all hoses in Booster Main Magnet power supplies.		



13	912	40 mhrs	Repair of tower no. 2 basin.	Outside contractors	Sample & smear req'd
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### **MAINTENANCE PROJECTS**

1	919B	32 mhrs	Install PS Temp controls and test three way valve.	
2	914 Booster	24 mhrs	Installation of RF Booster band III fittings (two units)	RF Group
3	911A	8 mhrs	Testing of special ejection pumps.	
4	912	32 mhrs	Repair of MMC Starter and seal for pump No. 1	P.E. Electricians
5	AGS Complex	40 mhrs	Drain, clean and repair towers, 1,2,3,4,5,6, F-10 & RFMG.	
6	911A	40 mhrs	Drain, clean and repair 8 main magnet evap coolers. Repair MM EVAP spray pump no. 3 Replace domestic make up solenoids.	
7	928	8 mhrs	Drain and Clean SEM EVAP Coolers.	
8	911A	6 mhrs	Drain and Clean RFPA EVAP Cooler.	
9	911A	6 mhrs	Testing of domestic hook-up for MM HTX. Electricians to check well water by pass valve.	Electricians
10	911A	24 mhrs	Tower #1 Pressure control valve repair.	Riggers
11	911A	6 mhrs	Replace or repair flow switches in Multipole Power Supply Cabinets.	

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Operations Support: R. Zaharatos (Ext. 7205 [4281], A. McNerney (Ext. 7693**  
**[4222]**

For Maintenance Period May, 1998 Shutdown

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
1			Support AGS BPM's installation		
2			Support Booster BPM's		
3			Support New Barrier Bucket installation		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Power Distribution: D. Bastedo (Ext. 2555 [0274], A. Soukas (Ext. 4735 [0310])**

For Maintenance Period May, 1998 Shutdown

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
1	Cable Tray Bldg. 929	1 1/2 wks	Preliminary Work (AGS on) Position Barrier Bucket Power Supply Install Tray inside Bldg. 929 for Plate P/S		
2		1 1/2 wks	Substation Work - RF Power Supply High Voltage. Shutdown 13.8 KV feed to RF Switchgear - (AGS Plate P/S's) Install 3.5" conduit for P/S (O/T 4 hrs.) Pull interlock cables between P/S and Circuit Breaker #11 (O/T 4 hrs.) Pull HV Cables between Transformer #11 & Barrier Bucket P/S (O/T 4 hrs.) Position Transformer #11 Pull Interlock cables between Power Supply and Transformer #11. Do High Voltage Terminations @ Transformer #11. Do High Voltage Terminations @ Power Supply. Cable & Connections for 208V 3 Phase power to P/S. Circuit Breaker Interlock Wiring - Main Breaker to #11 Breaker. Provide UPS Power & 120 VAC to Power Supply & Racks. Megger Primary Circuit for Barrier Bucket P/S Turn on Power to RF Switchgear.		
3	L18 House		Install 208 VAC Power for dump bump power supply		
4	Booster	2 wks to finish	Install BPM Cables		



# AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

## JOBS SCHEDULING REQUEST

GROUP: Power Supply: M. Bannon (Ext. 7704 [4224], I. Marneris (Ext. 7027 [4255])

For Maintenance Period May, 1998 Shutdown

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
<u>AGS</u>					
1		40 hrs	Install new contactor and resistors into the VSEXT and VQUAD in the multipole room		
2		48 hrs	Rebuild the F6 Main Magnet	Jim Curto	
3		32 hrs	Replace the 1000 MCM cables in the ring for the F5 Septum Magnet.		
4		16 hrs	Set up the resistance chassis for the F5 after the new septum is installed and check the wiring.		
5		40 hrs	Relocate the MCR UPS.		
6		60 hrs	Replace the 40 UF caps in the UPS's with the proper voltage caps 40V at 600VAC. recheck batteries in MCR, Siemens, and Linac UPS's.		
7			Install the new AC Unit in the multipole room		
8		120 hrs	Install the new J10 PS and Power into the J18 house and test.		
9		8 hrs	F10 DC Magnet bus and the F10 Septum need to be backflushed.		
10		32 hrs	Check the PLC wiring arms that all screws are tight in the A10, E10, H10, L18, 914, 930A, 930UEB		
<u>BOOSTER</u>					
11		300 hrs	Look into changing all the hoses in the BMMPS. Get a time estimate then proceed and do as many as possible during this time period. (Booster may be needed by 5/20/98).		
<u>SIEMENS</u>					
12		80 hrs	Balance MG Set Rotor		
13		32 hrs	Install new brushes for the generator exciter and set the brush holders so they are perpendicular to the		

ring. (measure length and start a new trend page for these brushes).

14	32 hrs	Boroscope the generator rotor for welds that were previously in question.	Wally Shaffer
15	40 hrs	Repair pedestal #2 oil leak. Retap 10MM1.5 bolts that are stripped out with 7/16-20.	Wally Shaffer
16	80 hrs	Install new hardware for the fiberglass covers	
17	24 hrs	Check & replace worn motor brushes and clean out brush area.	
18	16 hrs	Check STA I & II "F" Bank Fans and Circuit Breakers for proper operation and annunciation.	
19	240 hrs	Siemens maintenance-check 13.8KV CB oil level and lubricate, battery system check, etc.	
20	8 hrs	Test Emergency lift pump and circuitry. Write a procedure on what to do if a pump fails.	

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Pulsed Power: R. Zapasek (Ext. 2189 [4263], R. Sanders (Ext. 2591 [4228])**

For Maintenance Period May 1998 Shutdown

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
1	AGS	4 hr	<b>A5 KICKER</b> , repair interlocks, needs alt. LOTO to troubleshoot. (A. Zhang)		
2	AGS Booster	16 hr	<b>FAST KICKERS, A5, F3, G10</b> preventative maintenance. (A. Zhang)		
3	H10 House	8 hr	<b>H10SEPTUM</b> , change LLPS (R. Lockey)		
4	H10 House	16 hr	<b>FEB TRIM BUMPS</b> , test new regulators, requires power (A. Dunbar)		
5	Booster	2 hr	<b>F2,F7 BOOSTER BACKLEGS</b> , change polarity, (R. Lockey)		
6	919	Cont	<b>G-2 KICKER</b> , complete cont. and install (Mi)		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: RF – N. Laloudakis (Ext. 7177, 7417 [4261], A. Zaltsman (Ext. 2967 [4259])**

For Maintenance Period May, 1998 Shutdown

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
<b><u>AGS</u></b>					
1	AGS Ring		L10 Location Installation OF KEK Cavity, Blower and PA, Terminate all Cables and Remove the old ones.	HP, Vacuum , Power Room, Pump Room	Yes
2	Bldg. 929		Installation of Plate Supply and Variac Rack	Riggers	No
3	Bldg. 929		Terminate all the cables (L10 and D10)	No	No
4	D10 House		Install Kalamus and Terminate all the cables	Riggers	No
5	L18 A House		Install KEK drivers, PLC chassis, Terminate all cables	Riggers	No
6	AGS Ring		D10 Location Replace PA and Modify Cavity, Terminate Cables	HP	Yes
7	Bldg. 929		Gap short relays for L10 Cavity and Drivers for it.		
8	Bldg. 929		Testing of both systems	No	No
9	AGS Ring		Tighten all din rail and terminal screws in the junction boxes.	HP	Yes
10	Bldg. 929		Recalibrate all ALE Power Supplies	No	No
11	Bldg. 929		Modify Phase Detectors	No	No
12	AGS Ring		Inspection of Power amplifiers and Cavities	HP	Yes

**BOOSTER**

1	Booster Tunnel		Replace tube water fittings for band III and clean Water filters.	Pump Room	Yes
2	Booster Tunnel		Modify Gap dividers for A6	No	Yes
3	Booster Tunnel		Capacitors brackets for E6 and A6 Cavities (H=1)		
4	Booster Tunnel		Chokes for B+ Leads	HP	No



5	Booster Tunnel	Input filters for both systems	HP	No
6	Booster Tunnel	Install NWL Capacitors both Band 3 systems	HP	No
7	Bldg. 914	Modify tuning for band 3	HP	No
8	Bldg. 914	Phase detectors modify	No	No
9	Booster Tunnel	Inspection of Power Amplifier and Cavities	HP	Yes
10	Bldg. 914	Low Level RF build Chopper and Cogging box	No	No

### **VHF**

1	AGS Ring	30 hrs	Clean up behind VHF Cavity	HP	Yes
2	Bldg. 929, F18		Start up of the system	No	No

### **PUE AGS**

1	Bldg. 925		Test all electronics and install them in the final location	No	No
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### **PUE BOOSTER**

1	Bldg. 914		Pull all Helix Cables (3 times 48 locations)	HP	No
2	Bldg. 914		Terminate and Phase match them	No	No
3	Booster Tunnel		Install Transformer Boxes	HP	No
4	Bldg. 914		Build Test and Install electronics	No	No

# AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

## JOBS SCHEDULING REQUEST

GROUP: Vaccum – S. Gill (Ext. 4627 [4164], M. Mapes (Ext. 2841 [4277])

For Maintenance Period May, 1998 Shutdown

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
1	AGS	1 week	Vent F, remove F-5 SEPTUM, remove F-6 main mag., remove chamber & ion pump from main mag., install new SEPTUM, install refurbished F-5 main mag.-chamber-ion pump, new ion pumps at F-4 & F-7. Pumpdown, leak check, restore vacuum integrity.	Riggers, HP, Power Room, survey, Water Group, beam components	Survey req'd + RWP req'd
2	AGS	1 week	Vent L, remove straight section at L-10, install new L-10 RF Cavity. Pumpdown, leak check, restore vacuum integrity.	Riggers, HP, power room, survey, water group, RF group	Survey req'd
3	AGS	3 days	Vent J, remove straight section at J-10, install new J-10 DUMP. Pumpdown, leak check, restore vacuum integrity.	Riggers, HP, power room, survey, water group, beam components	Survey req'd
4	AGS	4 days	Vent HI, remove H-20 box, install new H-20 SEPTUM. Pumpdown, leak check, restore vacuum integrity.	Riggers, HP, power room, survey, water group, beam components	Survey req'd
5	AGS	3 days	Vent AB, remove straight section at A-20, install new FLYING WIRE. Pumpdown, leak check, restore vacuum integrity.	Beam components, HP, Survey	Survey req'd
6	G-2		Clean, bake, reassemble, leak check, install all chambers, pump down, leak check ring, repair all valves.		
7	RHIC Injection		Install Kickers (?), collimator(?), foil stripper (?), beam pipe(?). Restore vacuum integrity @ x line (sect 1 & 5), y line (sect 1), w line (sect 1)		
8	LEBT		Installation of Neutron Spallation Test Beam Line		
9	BLIP		Remove last section of beam pipe & window, install new window @ end of line,		

10	REF	Get "RABBIT" operational
11	Booster	Replace and test new C-8 ion gauge controller